

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-36. (Canceled)

37. (Currently amended) An isolated polynucleotide encoding a non-endogenous, constitutively activated version of a wild-type G protein-coupled receptor, wherein the wild-type G protein-coupled receptor comprises ~~SEQ. ID. NO.: 2, SEQ. ID. NO.: 4, SEQ. ID. NO.: 6, SEQ. ID. NO.: 8, SEQ. ID. NO.: 10, SEQ. ID. NO.: 12, SEQ. ID. NO.: 14, SEQ. ID. NO.: 16, SEQ. ID. NO.: 18, or SEQ. ID. NO.: 98~~ and wherein said non-endogenous constitutively activated version contains a mutation of an amino acid residue located 16 amino acid residues from a proline residue in TM6.

38. (Currently amended) An isolated polynucleotide ~~according to claim 37~~ encoding a non-endogenous, constitutively activated version of a wild-type G protein-coupled receptor, wherein the wild-type G protein-coupled receptor comprises SEQ. ID. NO.: 16, and wherein said polynucleotide encodes an amino acid sequence that comprises SEQ. ID. NO.: 63, SEQ. ID. NO.: 65, SEQ. ID. NO.: 67, SEQ. ID. NO.: 69, — SEQ. ID. NO.: 71, SEQ. ID. NO.: 73, SEQ. ID. NO.: 75, SEQ. ID. NO.: 77, SEQ. ID. NO.: 79, SEQ. ID. NO.: 81, SEQ. ID. NO.: 83, SEQ. ID. NO.: 85, or SEQ. ID. NO.: 87.

39. (Currently amended) An isolated polynucleotide according to claim 38, wherein the polynucleotide comprises ~~SEQ. ID. NO.: 62, SEQ. ID. NO.: 64, SEQ. ID. NO.: 66, SEQ. ID. NO.: 68, SEQ. ID. NO.: 70, SEQ. ID. NO.: 72, SEQ. ID. NO.: 74, SEQ. ID. NO.: 76, SEQ. ID. NO.: 78, SEQ. ID. NO.: 80, SEQ. ID. NO.: 82, SEQ. ID. NO.: 84, or SEQ. ID. NO.: 86.~~

40. (Previously presented) A vector comprising a polynucleotide according to any one of claims 37 to 39.

41. (Previously presented) A vector according to claim 40, wherein said vector is an expression vector.
42. (Previously presented) A host cell comprising an expression vector according to claim 41.
43. (Previously presented) A process for making a recombinant host cell comprising the steps of:
- (a) transfecting an expression vector according to claim 41 into a suitable host cell; and
 - (b) culturing the host cell under conditions which allow expression of a G protein-coupled receptor from the expression vector.
44. (Previously presented) A membrane of a recombinant host cell produced by the process of claim 43 comprising said G protein-coupled receptor.
45. (Withdrawn, currently amended) An isolated non-endogenous, constitutively activated version of a wild-type G protein-coupled receptor, wherein the wild-type G protein-coupled receptor comprises ~~SEQ. ID. NO.: 2, SEQ. ID. NO.: 4, SEQ. ID. NO.: 6, SEQ. ID. NO.: 8, SEQ. ID. NO.: 10, SEQ. ID. NO.: 12, SEQ. ID. NO.: 14, SEQ. ID. NO.: 16, SEQ. ID. NO.: 18, or SEQ. ID. NO.: 98~~ and wherein said non-endogenous constitutively activated version contains a mutation of an amino acid of residue located 16 amino acid residues from a proline residue in TM6.
46. (Withdrawn, currently amended) An isolated non-endogenous, constitutively activated version of a wild-type G protein-coupled receptor according to claim 45, comprising ~~SEQ. ID. NO.: 63, SEQ. ID. NO.: 65, SEQ. ID. NO.: 67, SEQ. ID. NO.: 69, SEQ. ID. NO.: 71, SEQ. ID. NO.: 73, SEQ. ID. NO.: 75, SEQ. ID. NO.: 77, SEQ. ID. NO.: 79, SEQ. ID. NO.: 81, SEQ. ID. NO.: 83, SEQ. ID. NO.: 85, or SEQ. ID. NO.: 87.~~

47. (Withdrawn) A method for identifying a candidate compound as a modulator of a non-endogenous, constitutively activated version of a wild-type G protein-coupled receptor, wherein the wild-type G protein-coupled receptor comprises SEQ. ID. NO: 2, SEQ. ID. NO.: 4, SEQ. ID. NO.: 6, SEQ. ID. NO.: 8, SEQ. ID. NO.: 10, SEQ. ID. NO.:12, SEQ. ID. NO.:14, SEQ. ID. NO.: 16, SEQ. ID. NO.: 18, or SEQ. ID. NO: 98,

said method comprising the steps of:

- (a) contacting said candidate compound with a host cell that expresses said non-endogenous, constitutively activated version of a wild-type G protein-coupled receptor, or a membrane thereof; and
- (b) measuring the ability of said candidate compound to inhibit or stimulate functionality of said non-endogenous, constitutively activated version of a wild-type G protein-coupled receptor, wherein ability to inhibit or stimulate functionality of said non-endogenous, constitutively activated version of a wild-type G protein-coupled receptor identifies said candidate compound as a modulator.

48. (Withdrawn) A method for identifying a candidate compound as a modulator of a non-endogenous, constitutively activated version of a wild-type G protein-coupled receptor according to claim 47, wherein said non-endogenous, constitutively activated version of a wild-type G protein-coupled receptor comprises SEQ. ID. NO.: 63, SEQ. ID. NO.: 65, SEQ. ID. NO.: 67, SEQ. ID. NO.: 69, SEQ. ID. NO.: 71, SEQ. ID. NO.: 73, SEQ. ID. NO.: 75, SEQ. ID. NO.: 77, SEQ. ID. NO.: 79, SEQ. ID. NO.: 81, SEQ. ID. NO.: 83, SEQ. ID. NO.: 85, or SEQ. ID. NO.:87.

49. (Withdrawn) A method for treating hypo-myelination in an individual in need of said treating, comprising administering to said individual an agonist of GPR37 or ETBR-LP2.

50. (Withdrawn) A method for treating colorectal cancer in an individual in need of said treating, comprising administering to said individual an inverse agonist of GPR35.